

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P241617

Luminaire Tested: **FVS8M-4-LD4-30-2HI-O-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241617
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-39)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-30-2HI-O-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH OPAL LENS
Light Source: (168) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

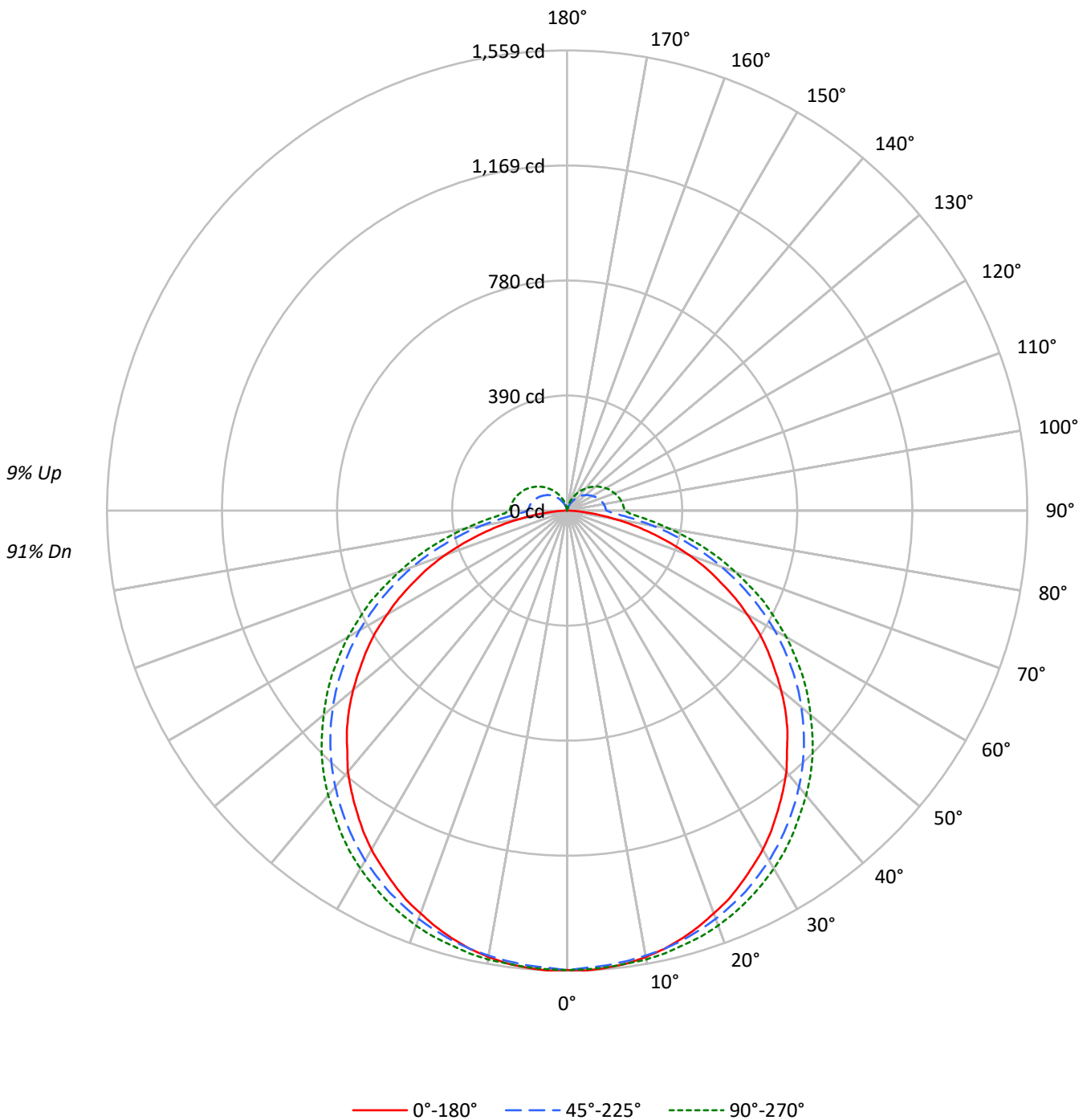
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5527.0 lumens
Efficiency: N/A
Efficacy: 64.7 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 85.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

TEST NUMBER: P241617
CATALOG NUMBER: FVS8M-4-LD4-30-2HI-O-UNV-EDC1

Luminous Intensity Polar Plot





TEST NUMBER: P241617

CATALOG NUMBER: FVS8M-4-LD4-30-2HI-O-UNV-EDC1

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10	0		
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	117	117	117	117	113	113	113	113	106	106	106		100	100	100		94	94	94	91
1	106	100	96	92	102	97	93	89	91	88	85		86	83	80		81	79	77	74
2	95	87	80	73	92	84	77	72	79	74	69		74	70	66		70	66	63	60
3	87	76	67	60	83	73	66	59	69	63	57		65	60	55		61	57	53	50
4	79	67	58	51	76	65	56	50	61	54	48		58	52	47		54	49	45	42
5	73	59	50	43	70	58	49	43	55	47	41		52	45	40		49	43	39	36
6	67	53	44	38	64	52	43	37	49	42	36		47	40	35		44	38	34	32
7	62	48	39	33	60	47	39	33	45	37	32		42	36	31		40	34	30	28
8	58	44	35	29	55	43	35	29	41	33	28		39	32	27		37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25		36	29	25		34	28	24	22
10	50	37	29	24	49	36	28	23	34	28	23		33	27	22		32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6956	6956	6956
5°	6951	6825	6831
10°	6922	6726	6740
15°	6873	6642	6647
20°	6810	6554	6577
25°	6751	6467	6488
30°	6693	6373	6394
35°	6604	6270	6288
40°	6526	6161	6178
45°	6420	6039	6063
50°	6288	5888	5896
55°	6125	5703	5738
60°	5894	5481	5514
65°	5585	5176	5257
70°	5179	4800	4874
75°	4462	4280	4483
80°	3444	3660	3957
85°	1832	3023	3540



TEST NUMBER: P241617

CATALOG NUMBER: FVS8M-4-LD4-30-2HI-O-UNV-EDC1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.7	2.7
10°-20°	426.9	7.7
20°-30°	657.6	11.9
30°-40°	811.0	14.7
40°-50°	868.3	15.7
50°-60°	818.9	14.8
60°-70°	665.4	12.0
70°-80°	431.3	7.8
80°-90°	197.2	3.6
90°-100°	125.8	2.3
100°-110°	113.4	2.1
110°-120°	94.9	1.7
120°-130°	73.1	1.3
130°-140°	50.2	0.9
140°-150°	29.1	0.5
150°-160°	12.9	0.2
160°-170°	3.3	0.1
170°-180°	0.1	0.0
0°-30°	1232.2	22.3
0°-40°	2043.2	37.0
0°-60°	3730.4	67.5
0°-90°	5024.3	90.9
90°-120°	334.0	6.0
90°-150°	486.4	8.8
90°-180°	503.0	9.1
0°-180°	5527.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1556	1556	1556	1556	1556	
5°	1555	1554	1546	1553	1553	148
15°	1501	1503	1508	1522	1524	424
25°	1394	1404	1426	1449	1454	643
35°	1244	1267	1300	1327	1335	779
45°	1056	1089	1134	1165	1176	813
55°	830	874	928	962	974	741
65°	572	626	686	723	738	568
75°	296	355	421	462	478	315
85°	52	116	185	230	247	67
90°	1	63	134	180	196	3
95°	1	59	130	176	191	1
105°	1	54	120	164	180	1
115°	1	47	107	148	163	1
125°	1	38	90	126	139	1
135°	1	28	72	102	113	1
145°	1	18	50	74	83	1
155°	2	9	27	47	52	1
165°	2	3	10	17	23	1
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241617

CATALOG NUMBER: FVS8M-4-LD4-30-2HI-O-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1556.5	1556.5	1556.5	1556.5	1556.5	1556.5	1556.5	1556.5	1556.5	1556.5	1556.5
2.5°	1559.3	1559.3	1558.4	1557.5	1557.5	1558.4	1558.4	1557.5	1554.6	1550.9	1549.9
5°	1554.6	1553.7	1554.6	1552.8	1553.7	1553.7	1552.8	1552.8	1549.9	1548.1	1546.2
7.5°	1548.1	1547.1	1546.2	1545.2	1545.2	1546.2	1545.2	1545.2	1543.4	1540.5	1539.6
10°	1535.8	1534.9	1535.8	1534.0	1534.0	1534.9	1535.8	1535.8	1534.0	1533.0	1531.1
12.5°	1520.8	1520.8	1519.9	1518.9	1519.9	1520.8	1521.7	1521.7	1520.8	1521.7	1520.8
15°	1501.1	1502.0	1500.1	1499.2	1502.9	1502.9	1504.8	1506.7	1506.7	1505.8	1507.6
17.5°	1478.5	1478.5	1478.5	1479.4	1480.4	1482.3	1484.1	1486.0	1487.0	1488.8	1490.7
20°	1452.2	1454.1	1454.1	1455.0	1458.8	1461.6	1461.6	1466.3	1467.2	1468.2	1471.9
22.5°	1426.8	1425.9	1425.9	1427.7	1432.4	1435.3	1438.1	1440.9	1442.8	1445.6	1449.4
25°	1393.9	1394.8	1395.8	1398.6	1404.2	1404.2	1408.9	1412.7	1416.5	1420.2	1425.9
27.5°	1360.1	1361.9	1362.9	1365.7	1372.3	1376.0	1378.9	1383.6	1387.3	1392.0	1397.7
30°	1326.2	1326.2	1327.2	1330.9	1337.5	1342.2	1345.0	1350.7	1356.3	1362.9	1368.5
32.5°	1286.8	1286.8	1287.7	1294.3	1300.9	1305.6	1310.3	1315.9	1321.5	1328.1	1335.6
35°	1243.5	1242.6	1245.4	1254.8	1261.4	1267.0	1272.7	1279.2	1286.8	1293.3	1299.9
37.5°	1200.3	1201.2	1202.2	1211.6	1221.9	1224.7	1231.3	1237.9	1245.4	1252.9	1262.3
40°	1155.2	1155.2	1158.9	1165.5	1177.7	1182.4	1188.1	1196.5	1203.1	1213.4	1221.9
42.5°	1102.5	1107.2	1111.9	1119.4	1131.7	1137.3	1142.9	1153.3	1161.7	1168.3	1179.6
45°	1055.5	1056.5	1061.2	1072.5	1083.7	1089.4	1096.9	1107.2	1117.6	1125.1	1134.5
47.5°	1002.9	1002.9	1009.5	1019.8	1033.0	1039.6	1046.1	1056.5	1065.9	1079.0	1086.6
50°	946.5	948.4	955.9	969.1	982.2	986.0	992.6	1006.7	1015.1	1025.5	1035.8
52.5°	887.3	891.0	901.4	912.7	923.9	932.4	938.0	953.1	963.4	973.8	984.1
55°	830.0	830.9	839.4	854.4	868.5	874.1	883.5	895.7	907.0	918.3	927.7
57.5°	771.7	769.8	780.1	796.1	810.2	814.9	823.4	838.4	849.7	860.0	870.4
60°	704.0	708.7	718.1	733.1	748.2	752.9	760.4	777.3	787.7	799.9	812.1
62.5°	642.0	642.9	657.9	669.2	685.2	694.6	699.3	713.4	724.7	737.8	749.1
65°	572.4	580.9	589.3	602.5	618.5	626.0	631.6	650.4	662.6	674.9	686.1
67.5°	509.4	512.3	523.5	537.6	553.6	560.2	569.6	582.8	596.9	607.2	622.2
70°	438.9	441.8	452.1	469.0	484.1	493.5	501.0	516.0	529.2	542.3	556.4
72.5°	368.4	371.3	384.4	399.5	417.3	423.0	431.4	447.4	461.5	475.6	490.6
75°	296.1	303.6	317.7	330.9	348.7	355.3	365.6	383.5	397.6	409.8	421.1
77.5°	228.4	238.7	250.0	264.1	280.1	289.5	298.0	314.9	329.9	345.9	358.1
80°	163.5	171.1	183.3	197.4	215.2	227.5	234.0	250.0	264.1	279.2	293.3
82.5°	106.2	110.0	122.2	140.0	157.0	166.4	174.8	191.7	205.8	219.9	234.0
85°	51.7	58.3	70.5	89.3	106.2	115.6	124.1	141.0	156.0	172.0	185.2
87.5°	16.9	24.4	36.7	52.6	70.5	79.0	87.4	104.3	120.3	134.4	149.4
90°	0.9	6.6	19.7	36.7	53.6	63.0	71.4	88.4	104.3	119.4	133.5
92.5°	0.9	5.6	18.8	34.8	51.7	61.1	69.6	86.5	102.5	117.5	130.6
95°	0.9	5.6	17.9	33.8	50.8	59.2	68.6	84.6	100.6	115.6	129.7
97.5°	0.9	5.6	16.9	32.9	49.8	58.3	66.7	83.7	99.6	114.7	127.8
100°	0.9	4.7	16.9	32.0	48.9	57.3	65.8	81.8	97.8	111.9	125.9
102.5°	0.9	4.7	16.0	31.0	47.0	55.5	63.9	79.9	94.9	109.0	123.1
105°	0.9	4.7	16.0	30.1	46.1	54.5	62.0	78.0	93.1	107.2	120.3
107.5°	0.9	4.7	15.0	29.1	44.2	52.6	60.2	75.2	90.2	104.3	117.5
110°	0.9	3.8	14.1	28.2	43.2	50.8	58.3	73.3	87.4	101.5	113.7



TEST NUMBER: P241617

CATALOG NUMBER: FVS8M-4-LD4-30-2HI-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.9	3.8	14.1	27.3	41.4	48.9	56.4	70.5	84.6	97.8	110.9
115°	0.9	3.8	13.2	25.4	39.5	47.0	54.5	68.6	81.8	94.9	107.2
117.5°	0.9	2.8	12.2	24.4	37.6	45.1	51.7	65.8	79.0	91.2	103.4
120°	0.9	2.8	11.3	23.5	35.7	43.2	49.8	63.0	75.2	88.4	98.7
122.5°	0.9	2.8	10.3	21.6	34.8	40.4	47.0	60.2	72.4	84.6	94.9
125°	0.9	1.9	10.3	20.7	32.9	38.5	45.1	57.3	68.6	79.9	90.2
127.5°	0.9	1.9	9.4	19.7	31.0	36.7	42.3	53.6	65.8	76.1	86.5
130°	0.9	1.9	8.5	17.9	28.2	33.8	39.5	50.8	61.1	72.4	81.8
132.5°	0.9	1.9	7.5	16.0	26.3	31.0	36.7	47.9	58.3	67.7	77.1
135°	0.9	1.9	6.6	14.1	23.5	28.2	33.8	43.2	53.6	63.0	72.4
137.5°	0.9	1.9	5.6	13.2	20.7	25.4	30.1	39.5	48.9	58.3	66.7
140°	0.9	0.9	4.7	11.3	18.8	22.6	27.3	35.7	44.2	52.6	61.1
142.5°	0.9	0.9	3.8	9.4	16.9	19.7	24.4	32.0	39.5	47.9	55.5
145°	0.9	0.9	2.8	8.5	14.1	17.9	21.6	28.2	34.8	42.3	49.8
147.5°	0.9	0.9	2.8	6.6	12.2	15.0	17.9	24.4	31.0	37.6	43.2
150°	1.9	1.9	2.8	5.6	10.3	13.2	16.0	21.6	27.3	32.9	37.6
152.5°	1.9	1.9	1.9	4.7	8.5	11.3	13.2	17.9	22.6	28.2	32.9
155°	1.9	1.9	1.9	3.8	7.5	9.4	11.3	15.0	18.8	23.5	27.3
157.5°	1.9	1.9	1.9	2.8	5.6	7.5	8.5	12.2	16.0	18.8	22.6
160°	1.9	1.9	1.9	2.8	4.7	5.6	6.6	9.4	12.2	15.0	17.9
162.5°	1.9	1.9	1.9	1.9	3.8	4.7	5.6	7.5	9.4	12.2	14.1
165°	1.9	1.9	1.9	1.9	2.8	2.8	3.8	5.6	6.6	8.5	10.3
167.5°	1.9	1.9	1.9	1.9	1.9	2.8	2.8	3.8	4.7	5.6	6.6
170°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.8	2.8	3.8	3.8
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P241617

CATALOG NUMBER: FVS8M-4-LD4-30-2HI-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1556.5	1556.5	1556.5	1556.5	1556.5	1556.5	1556.5	1556.5	1556.5	1556.5
2.5°	1551.8	1552.8	1554.6	1556.5	1555.6	1555.6	1556.5	1555.6	1556.5	1555.6
5°	1546.2	1549.0	1550.9	1552.8	1552.8	1552.8	1552.8	1552.8	1552.8	1552.8
7.5°	1540.5	1542.4	1545.2	1548.1	1548.1	1549.0	1549.0	1548.1	1549.0	1548.1
10°	1533.0	1536.8	1539.6	1541.5	1542.4	1542.4	1543.4	1543.4	1543.4	1544.3
12.5°	1522.7	1526.4	1530.2	1533.0	1534.0	1533.0	1534.9	1535.8	1534.9	1535.8
15°	1510.5	1513.3	1518.9	1520.8	1521.7	1522.7	1523.6	1524.6	1524.6	1523.6
17.5°	1494.5	1499.2	1502.0	1507.6	1507.6	1508.6	1510.5	1511.4	1510.5	1512.3
20°	1476.6	1481.3	1486.0	1489.8	1489.8	1491.7	1493.5	1494.5	1496.4	1496.4
22.5°	1455.0	1460.6	1466.3	1470.0	1471.9	1471.9	1474.7	1475.7	1477.6	1476.6
25°	1430.6	1438.1	1443.7	1446.5	1449.4	1450.3	1452.2	1453.1	1453.1	1454.1
27.5°	1404.2	1409.9	1416.5	1421.2	1424.0	1424.0	1426.8	1427.7	1427.7	1428.7
30°	1374.2	1382.6	1387.3	1392.0	1393.0	1394.8	1397.7	1398.6	1401.4	1400.5
32.5°	1342.2	1349.7	1355.4	1359.1	1362.9	1363.8	1365.7	1368.5	1368.5	1370.4
35°	1308.4	1314.0	1319.7	1325.3	1327.2	1330.0	1332.8	1333.8	1335.6	1334.7
37.5°	1270.8	1278.3	1283.9	1285.8	1290.5	1292.4	1296.2	1297.1	1298.0	1296.2
40°	1230.4	1236.9	1244.5	1248.2	1251.0	1252.0	1256.7	1257.6	1258.6	1259.5
42.5°	1188.1	1196.5	1202.2	1206.9	1209.7	1210.6	1215.3	1215.3	1218.1	1219.1
45°	1142.9	1151.4	1158.0	1163.6	1164.6	1167.4	1171.1	1173.0	1172.1	1175.8
47.5°	1096.0	1104.4	1111.0	1115.7	1116.6	1118.5	1123.2	1124.1	1126.0	1127.0
50°	1044.3	1052.7	1060.2	1065.9	1067.8	1070.6	1074.3	1076.2	1077.2	1076.2
52.5°	993.5	1002.0	1006.7	1014.2	1017.0	1016.1	1021.7	1025.5	1024.5	1026.4
55°	939.0	946.5	954.0	959.7	961.5	964.4	968.1	969.1	970.9	973.8
57.5°	878.8	892.0	897.6	900.4	904.2	907.0	908.9	915.5	915.5	914.5
60°	820.6	830.0	837.5	844.1	845.9	849.7	853.5	856.3	856.3	858.1
62.5°	761.3	769.8	777.3	783.0	783.9	788.6	793.3	795.2	796.1	795.2
65°	698.4	704.0	716.2	719.0	722.8	727.5	730.3	733.1	735.0	737.8
67.5°	632.6	641.0	650.4	657.9	661.7	663.6	667.3	670.2	672.0	670.2
70°	567.7	576.2	583.7	591.2	595.0	595.9	599.7	603.4	605.3	604.4
72.5°	501.0	510.4	519.8	525.4	529.2	532.0	538.6	539.5	539.5	543.3
75°	434.2	444.6	454.0	461.5	462.4	466.2	470.0	473.7	479.4	478.4
77.5°	368.4	379.7	387.2	393.8	398.5	402.3	406.0	408.9	410.7	413.6
80°	306.4	318.6	324.3	332.7	336.5	340.3	344.0	348.7	352.5	350.6
82.5°	246.3	259.4	268.8	277.3	279.2	285.7	287.6	291.4	292.3	295.1
85°	197.4	209.6	218.1	228.4	230.3	235.0	239.7	242.5	244.4	247.2
87.5°	161.7	172.9	182.3	191.7	194.6	197.4	203.0	207.7	209.6	211.5
90°	145.7	157.0	167.3	175.8	179.5	182.3	188.0	192.7	194.6	195.5
92.5°	143.8	155.1	164.5	172.9	176.7	180.5	186.1	189.9	191.7	192.7
95°	141.9	153.2	163.5	172.0	175.8	178.6	184.2	188.0	189.9	190.8
97.5°	140.0	151.3	161.7	170.1	173.9	176.7	182.3	186.1	188.0	188.9
100°	138.2	149.4	158.8	167.3	171.1	173.9	179.5	183.3	185.2	186.1
102.5°	135.3	146.6	156.0	164.5	168.2	171.1	175.8	180.5	182.3	183.3
105°	132.5	142.9	152.3	160.7	164.5	167.3	172.9	176.7	178.6	179.5
107.5°	128.8	140.0	148.5	157.0	160.7	163.5	169.2	172.0	174.8	175.8
110°	125.9	136.3	144.7	153.2	157.0	159.8	164.5	168.2	170.1	171.1



TEST NUMBER: P241617

CATALOG NUMBER: FVS8M-4-LD4-30-2HI-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	122.2	132.5	141.0	148.5	152.3	155.1	160.7	163.5	166.4	166.4
115°	117.5	127.8	136.3	143.8	147.6	150.4	155.1	158.8	160.7	162.6
117.5°	113.7	123.1	132.5	139.1	142.9	145.7	150.4	154.1	156.0	157.0
120°	110.0	119.4	126.9	134.4	137.2	140.0	144.7	148.5	150.4	151.3
122.5°	105.3	114.7	122.2	128.8	131.6	134.4	139.1	142.9	144.7	145.7
125°	100.6	109.0	116.6	123.1	125.9	128.8	133.5	136.3	138.2	139.1
127.5°	95.9	104.3	111.9	117.5	120.3	123.1	126.9	130.6	132.5	133.5
130°	90.2	98.7	106.2	111.9	114.7	116.6	120.3	124.1	125.9	126.9
132.5°	85.5	93.1	99.6	106.2	108.1	110.9	113.7	117.5	119.4	119.4
135°	79.9	87.4	94.0	99.6	101.5	104.3	108.1	110.9	111.9	112.8
137.5°	75.2	81.8	88.4	93.1	94.9	97.8	100.6	103.4	105.3	105.3
140°	69.6	76.1	81.8	86.5	88.4	90.2	94.0	95.9	97.8	97.8
142.5°	63.0	69.6	75.2	79.9	81.8	83.7	86.5	89.3	90.2	90.2
145°	56.4	63.9	68.6	73.3	74.3	76.1	79.0	80.8	82.7	82.7
147.5°	49.8	56.4	62.0	65.8	67.7	69.6	71.4	73.3	75.2	75.2
150°	44.2	49.8	55.5	59.2	61.1	62.0	64.9	65.8	66.7	67.7
152.5°	37.6	42.3	47.9	52.6	53.6	54.5	57.3	59.2	59.2	60.2
155°	31.0	35.7	39.5	44.2	47.0	47.9	49.8	50.8	51.7	51.7
157.5°	26.3	30.1	32.9	36.7	38.5	40.4	42.3	44.2	44.2	44.2
160°	20.7	23.5	26.3	29.1	31.0	32.9	35.7	35.7	36.7	37.6
162.5°	16.0	17.9	20.7	22.6	24.4	25.4	28.2	29.1	29.1	29.1
165°	11.3	13.2	15.0	16.9	16.9	17.9	20.7	21.6	21.6	22.6
167.5°	7.5	8.5	10.3	11.3	11.3	12.2	13.2	16.0	15.0	15.0
170°	4.7	4.7	5.6	6.6	6.6	6.6	7.5	8.5	9.4	9.4
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)